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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,981	02/01/2006	Kazue Watanabe	F-8846	8317

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EXAMINER	
REDDY, KARUNA P	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,981	WATANABE, KAZUE	
	Examiner	Art Unit	
	KARUNA P. REDDY	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7 and 10-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-7 and 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to an amendment filed 10/22/2008. Claims 2-3 and 8-9 are cancelled. Accordingly, claims 1, 4-7 and 10-13 are currently pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 4-5, 7, 10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shih et al (US 6, 153, 288) in view of Su (US 6, 124, 417) as evidenced by Krautter et al (US 4, 576, 864), Petrocelli et al (US 6, 245, 851) and Andrä et al (US 4,410,011).

Shih et al disclose a coatable composition comprising a pigment dispersed in or mixed with a binder, which comprises an ethylene-vinyl acetate (EVA) emulsion polymer and at least one water-soluble cationic polymer (column 1, lines 40-44). In example 4, ink-receptive composition containing a single cationic water soluble polymer is prepared by blending components in the order listed: 9 g Airflex 7200 that is an EVA emulsion polymer, 10 g Agefloc Wt50SLV i.e. poly(allyldimethylammonium chloride) which reads on water soluble cationic polymer of claim 1 and silicron which reads on the pigment of instant invention (column 8, lines 13-16). Furthermore, pigments useful include materials that increase the opacity and/or modify the porosity of coated substrate. Inorganic pigments are especially preferred and include silicic acid, which reads on the

anionic functional substance and support for anionic nature of silicic acid is provided in the teachings of Krautter et al (column 10, lines 44-45). It is noted that Airflex 7200 has a mean particle diameter of 0.34 microns which is supported by the teachings of Petrocelli (Table 7). A preferred ink-receptive composition has about 15-70% EVA emulsion polymer, about 5-50% of at least one water soluble cationic polymer and 20-60% pigment (column 1, lines 54-57).

Shih et al differs with respect to aqueous-emulsion type acrylic pressure sensitive adhesive and its viscosity.

However, Su et al teach water-receptive, water dispersible acrylic polymers which are useful as water-activatable adhesives. The composition comprises an acrylic based polymer prepared by emulsion polymerization of a monomer mixture comprising alkyl acrylates, vinyl acetate and (meth)acrylic acid (column 2, lines 5-17). Films cast from these emulsion polymers are useful as ink jet imprintable polymers that provide up to 100% image transfer (column 2, lines 28-32). See table 1 (column 7 and 8) for examples of emulsion polymers made from acrylates and vinyl acetate in an aqueous medium comprising Disponil FES77 (reads on the anionic surfactant of present claims). Evidence that acrylic copolymers comprising vinyl acetate and acrylates are anionic in nature comes from teachings of Andrä et al (column 12, lines 58-60). The emulsion acrylic copolymers have a solids content of about 50% and a viscosity of 12,500 cps (column 6, lines 30-33) in example 1 and 5,900 cps in example 2 (column 6, line 50). Water-activatable pressure-sensitive adhesives are particularly useful as the ink-receptive adhesive component (column 8, lines 60-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to use an emulsion polymer comprising acrylates and vinyl acetate monomer with a viscosity

between 5,900 cps and 12,500 cps because Su has proven successfully that emulsion polymers comprising acrylic monomers and vinyl acetate having a viscosity of 5,900 cps and 12,500 cps are useful as ink-receptive adhesive component and provide up to 100% image transfer at room temperature and one of ordinary skill in the art would have expected the aqueous emulsion polymer comprising acrylic monomers and vinyl acetate having a viscosity between 5,900 cps and 12,500 cps to work as an adhesive component in the composition of Shih et al to provide up to 100% image transfer at room temperature, absent evidence to the contrary.

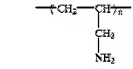
4. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shih et al (US 6, 153, 288) in view of Su (US 6, 124, 417) as evidenced by Krautter et al (US 4, 576, 864), Petrocelli et al (US 6, 245, 851) and Andrä et al (US 4,410,011) as applied to claims 1 and 7 above, and further in view of Miyabayashi et al (US 2001/0023266 A1).

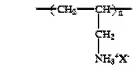
The discussion with respect to Shih et al in view of Su as evidenced by Krautter et al, Petrocelli et al and Andrä et al in paragraph 3 above is incorporated here by reference.

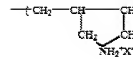
Shih et al in view of Su as evidenced by Krautter et al, Petrocelli et al and Andrä et al differ with respect to cationic water-soluble polymer.

However, Miyabayashi et al teach ink composition comprising fine particles of resin (abstract). The diameter of fine particles is preferably about 0.005 to 0.3 microns (paragraph 0042). The fine particles of polymer comprise a thermoplastic polymer such as ethylene/vinyl acetate copolymers (paragraph 0049). In a preferred embodiment, it comprises the ink composition and a reaction solution comprising a reactant which produces an agglomorate upon contact with the ink composition. This method can produce an image having excellent fixation, drying to touch, rubbing/scratch resistance

and waterfastness, good OD value and glossiness (paragraph 0095). Examples of reactants include polyallylamine and/or derivatives thereof (paragraph 0096). The polyallylamine and polyallylamine derivatives are cationic polymers that are soluble in water. Such polymers include those represented by the following formulae -







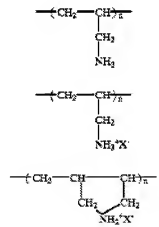
A copolymer of allylamine with a diallylamine may also be used (paragraph 0099). Therefore, it would have been obvious to use the monoallylamine of Miyabayashi et al in place of diallylamine for above mentioned advantages, and also because Miyabayashi et al has shown that monoallylamine is interchangeable with and equivalent to diallylamine.

5. Claims 1, 4, 6-7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyabayashi et al (US 2001/0023266 A1) in view of Su (US 6, 124, 417) as evidenced by Andrä et al (US 4,410,011).

Miyabayashi et al disclose an ink composition (abstract). The ink composition may further comprise a surfactant and include anionic surfactants (paragraph 0075). The pigment may be added in the form of a pigment dispersion prepared by dispersing the pigment in an aqueous medium with the aid of dispersant (paragraph 0063). The ink

composition may contain fine particles of a general purpose polymer. The diameter of fine particles of the general purpose polymer is preferably about 0.005 to 0.3 microns. The fine particles of the polymer include acrylic polymer and vinyl acetate polymer (paragraph 0076).

The ink composition of Miyabayashi et al can be used for a recording method using two liquids i.e. an ink composition and a reaction solution comprising a reactant which produces agglomerate upon contact with the ink composition. This method can produce an image having excellent fixation, drying to touch, rubbing/scratch resistance, waterfastness, good OD value and glossiness (paragraph 0095). Examples of reactants include polyvalent metal salts and/or polyallylamine and/or derivatives (paragraph 0096). The polyallylamine and polyallylamine derivatives are cationic polymers that are soluble in water. Such polymers include those represented by the following formulae -



A copolymer of allylamine with a diallylamine may also be used (paragraph 0099). The selection may be determined by taking a combination of the ink composition with reaction solution into consideration (paragraph 0107).

Miyabayashi et al differs with respect to aqueous emulsion pressure sensitive adhesive and is silent with respect to the amount of cationic water soluble polymer.

However, Su et al teach water-receptive, water dispersible acrylic polymers which are useful as water-activatable adhesives. The composition comprises an acrylic based polymer prepared by emulsion polymerization of a monomer mixture comprising alkyl acrylates, vinyl acetate and (meth)acrylic acid (column 2, lines 5-17). Films cast from these emulsion polymers are useful as ink jet imprintable polymers that provide up to 100% image transfer (column 2, lines 28-32). See table 1 (column 7 and 8) for examples of emulsion polymers made from acrylates and vinyl acetate in an aqueous medium comprising Disponil FES77 which reads on the anionic surfactant of present claims. Evidence that acrylic copolymers comprising vinyl acetate and acrylates are anionic in nature comes from teachings of Andrä et al (column 12, lines 58-60). The emulsion acrylic copolymers have a solids content of about 50% and a viscosity of 12,500 cps (column 6, lines 30-33) in example 1 and 5,900 cps in example 2 (column 6, line 50). Water-activatable pressure-sensitive adhesives are particularly useful as the ink-receptive adhesive component (column 8, lines 60-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to use an emulsion polymer comprising acrylates and vinyl acetate monomer with a viscosity between 5,900 cps and 12,500 cps because Miayabayashi et al contemplate using acrylic and vinyl acetate polymers in the ink composition and Su has proven successfully that emulsion polymers comprising acrylic monomers and vinyl acetate having a viscosity of 5,900 cps and 12,500 cps are useful as ink-receptive adhesive component and provide up to 100% image transfer at room temperature and one of ordinary skill in the art would have expected the aqueous emulsion polymer comprising acrylic

monomers and vinyl acetate having a viscosity between 5,900 cps and 12,500 cps to work as an adhesive component in the composition of Miyabayashi et al to provide up to 100% image transfer at room temperature, absent evidence to the contrary.

With respect to the amount of water-soluble cationic polymer, while neither references elucidate that value, it is the examiner's position that amount of cationic water soluble polymer is a result-effective variable (MPEP 2144.5) since the amount used clearly affects various properties of the composition such as fixation, dryness to touch, rubbing/scratch resistance, waterfastness, OD value and glossiness. Hence, the choice of a particular amount of cationic water soluble polymer (such as the amount in present claims) is a matter of routine experimentation and would have been well within the skill level of, and thus obvious to, one of ordinary skill in the art.

Response to Arguments

6. Applicant's arguments with respect to rejection of claims 1, 3-5, 7 and 9-10 under 35 U.S.C. 103(a) as being unpatentable over Shih et al (US 6, 153, 288); claims 2 and 8 under 35 U.S.C. 103(a) as being unpatentable over Shih et al (US 6, 153, 288) in view of Su (US 6, 124, 417); claims 6 and 11 under 35 U.S.C. 103(a) as being unpatentable over Shih et al (US 6, 153, 288) in view of Miyabayashi et al (US 2001/0023266 A1); claims 1-2, 6 and 12 under 35 U.S.C. 103(a) as being unpatentable over Miyabayashi et al (US 2001/0023266 A1); and claims 7 and 13 under 35 U.S.C. 103(a) as being unpatentable over Miyabayashi et al (US 2001/0023266 A1) in view of Goldberg (US 4,889,559), have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

While the grounds of rejection are changed, it was still deemed appropriate to address some of the arguments which would be pertinent to prior art being cited in this office action (See paragraph 7 below) because of the office policy for compact prosecution.

7. Applicant's arguments filed 10/22/2008 and 10/27/2008 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) water-activatable and acrylate containing layer of Su is not tacky, but the pressure sensitive adhesive of present claims are by their very nature tacky; (B) office offers no discussion whatsoever for the conclusory statement that the amount of water-soluble cationic polymer is clearly a result-effective variable and hence ripe for optimization; (C) office ignores that the composition be formed by mixing the aqueous-emulsion type acrylic PSA with a cationic water-soluble polymer; (D) office has not provided motivation for selecting only those polymers meeting the limitations of applicant's claims out of a long list belonging to a variety of classes.

With respect to (A), applicant's attention is drawn to Su (column 8, lines 60-63) wherein it states "water-activatable pressure-sensitive adhesives of prepared in accordance with present invention are particularly useful as the ink-receptive adhesive component of image transfer sheets". Thus, applicant's allegation that water-activatable polymer of Su et al is not a pressure sensitive adhesive is without merit.

With respect to (B), applicant's attention is drawn to Miyabayashi et al (paragraph 0095-0096) and referred to in rejection set forth in paragraph 7 of office action mailed 4/22/2008. To reiterate, method using two liquids i.e. an ink composition and a reaction solution comprising a reactant produces agglomerate upon contact with the ink composition. This method can produce an image having excellent fixation, drying to

touch, rubbing/scratch resistance, waterfastness, good OD value and glossiness (paragraph 0095). Examples of reactants include polyvalent metal salts and/or polyallylamine and/or derivatives i.e. read on cationic polymer of present claims.

With respect to (C), it is the examiner's position that a mixture is formed when ink composition comes in contact with the water-soluble cationic polymer to form the agglomerate. Furthermore, it is noted that claims are directed to a product and not method of making the composition. Case law holds that "even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

With respect to (D), applicant's attention is drawn to the new grounds of rejection in paragraph 5 above, necessitated by amendment and incorporated here by reference.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. P. R./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796